1 <u>CLAIMS</u>

- 2 We claim:
- 3 1. A method for locating position for a mobile commutation device, comprising:
- 4 inputting geo-indicators (Gi-i, Gi-2, ..., Gi-n) based on text by a user with the mobile
- 5 commutation device;
- 6 transmitting the geo-indicators to a back end server;
- 7 generating a candidate feature set for each geo-indicator by applying geocoding which
- 8 maps the text address to a geo-location based on a back end spatial database;
- 9 deciding the final geo-location information by geoclustering the candidate feature set; and
- transmitting the geo-location information to the mobile communication device.
- 11 2. A method for locating position for a mobile communication device according to
- claim 1, wherein the geo-indicators (Gi-1, Gi-2, ..., Gi-n) are based on text inputted by
- 13 the user with the mobile commutation device, Gi-j is an item selected from a group of
- 14 items including: a street name, a building name, a postal code, a telephone number, and
- any combination of these.
- 16 3. A method for locating position for a mobile communication device according to
- claim 1, wherein the geo-indicators (Gi-1, Gi-2, ..., Gi-n) are based on text inputted by
- 18 the users with the mobile commutation device, Gi-j is selected from a group including an

- abbreviation of a street name and/or a building name, a local code of a postal code, a
- 2 telephone number, and any combination of these.
- 3 4. A method for locating position for a mobile communication device according to
- 4 claim 1, wherein said candidate feature set is a set of points determined from an item in a
- 5 group of items including: a building name, a set of lines determined by a road name, a
- 6 polygon determined by a postal code, a telephone number, and any combination of these.
- 7 5. A method for locating position for a mobile communication device according to
- 8 claim 1, wherein said candidate feature set is labeled with a confidence level.
- 9 6. A method for locating position for a mobile communication device according to
- claim 5, wherein the geometry relationship and confidence level is taken into account
- when geoclustering said candidate feature set.
- 12 7. A method for locating position for a mobile communication device according to
- claim 1, further comprising a step of feeding back a choice made by the user and/or
- adding an additional geo-indicator inputted by the user, in order to locate said position
- 15 precisely.
- 16 8. A system for locating position for a mobile commutation device, comprising:
- a mobile communication device, for inputting geo-indicators (Gi-1, Gi-2, ..., Gi-n) based
- 18 on text;
- 19 geo-location generating means, for generating a candidate feature set for each
- 20 geo-indicator by applying geocoding which maps the text address to an geo-location
- 21 based on a back end spatial database; and
- 22 clustering means, for deciding the final geo-location information by geoclustering the
- 23 candidate feature set.

- 1 9. A system for locating position for a mobile communication device according to
- 2 claim 8, wherein said mobile communication device is a WAP phone or a PDA.
- 3 10. A system for locating position for a mobile communication device according to
- 4 claim 8, wherein the geo-indicators (Gi-1, Gi-2, ..., Gi-n) based on text inputted by the
- 5 user with the mobile commutation device, Gi-j is selected from the group of items
- 6 including: a street name, a building name, a postal code, a telephone number, and any
- 7 combination of these.
- 8 11. A system for locating position for a mobile communication device according to
- 9 claim 10, wherein the geo-indicators (Gi-1, Gi-2, ..., Gi-n) based on text inputted by the
- user with the mobile commutation device, Gi-j could be an abbreviation of a street name
- and a building name, or the local code of a postal code and a telephone number.
- 12. A system for locating position for a mobile communication device according to
- claim 8, wherein said candidate feature set could be a set of points determined by a
- building name, a set of lines determined by a road name, or a polygon determined by a
- postal code or a telephone number.
- 16 13. A system for locating position for a mobile communication device according to
- claim 8, wherein said candidate feature set is labeled with a confidence level.
- 18 14. A system for locating position for a mobile communication device according to
- claim 13, wherein the geometry relationship and confidence level is taken into account
- when geoclustering said candidate feature set.

- 1 15. A system for locating position for a mobile communication device according to
- 2 claim 8, further comprising result feedback means wherein a choice is made by the user
- 3 or an additional geo-indicator is inputted by the user in order to locate the position
- 4 precisely.
- 5 16. An article of manufacture comprising a computer usable medium having computer
- 6 readable program code means embodied therein for locating a position for a mobile
- 7 commutation device, the computer readable program code means in said article of
- 8 manufacture comprising computer readable program code means for causing a computer
- 9 to effect the steps of claim 1.
- 10 17. A program storage device readable by machine, tangibly embodying a program of
- instructions executable by the machine to perform method steps for locating a position for
- 12 a mobile commutation device, said method steps comprising the steps of claim 1.
- 13 18. A computer program product comprising a computer usable medium having
- computer readable program code means embodied therein for causing a system for
- locating position for a mobile commutation device, the computer readable program code
- means in said computer program product comprising computer readable program code
- means for causing a computer to effect the functions of claim 8.